AMENDMENTS

Please amend the claims as follows:

1.   (original) A method for generating multiple level transmit waveforms, the method comprising:

      (a)   applying a first voltage level in response to a first switch;

      (b)   applying a second voltage level in response to a second switch; and

      (c)   outputting a transmit waveform having at least three different non-zero peak amplitudes from a first transformer in response to (a) and (b) as a function of time.

2.   (original) The method of Claim 1 wherein (a) comprises applying the first voltage on the first transformer, (b) comprises applying the second voltage on a second transformer in series with the first transformer.

3.   (original) The method of Claim 1 wherein (a) and (b) comprise generating the first and second voltages on first and second separate flux paths of the first transformer and (c) comprises outputting the transmit waveform from a secondary winding around a third flux path of the first transformer, the third flux path separate from the first and second flux paths.

4.   (original) The method of Claim 1 wherein (a) and (b) comprise applying first and second voltages on first and second flux paths, respectively, of the first transformer; and (c) comprises generating a third voltage on a third flux path as a function of the first and second voltages.

5.   (original) The method of Claim 4 wherein (c) comprises superposing magnetic flux from the first and second flux paths in the third flux path.

6.   (original) The method of Claim 4 wherein the first and second voltages are ternary (+, - and 0).

7.   (original) The method of Claim 4 further comprising:

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(d)   applying a fourth voltage on a fourth flux path of the transformer;

wherein (c) comprises generating the third voltage as a sum of the first, second and fourth voltages.

8.   (original) The method of Claim 4 further comprising:

(d)   tapping a first primary winding around the first flux path to a first voltage source; and

(e)   closing one of first and second switches connected to opposite ends of the first primary winding.

9.   (original) The method of Claim 4 further comprising:

(d)   connecting an untapped winding around the first flux path to ground when the first voltage is zero.

10.   (original) The method of Claim 4 further comprising:

(d)   applying the first voltage in response to a first voltage source tapped to a first primary winding on the first flux path;

(e)   applying the second voltage in response to a second voltage source tapped to a second primary winding on the second flux path;

wherein the first and second voltage sources are operable to output different voltages.

11.   (original) The method of Claim 4 wherein (c) comprises summing or subtracting a first voltage and a second voltage.

12.   (original) The method of Claim 4 wherein (c) comprises summing a zero value first voltage with the second voltage.

13.   (original) The method of Claim 4 wherein (c) comprises generating the transmit waveform with at least eight different non-zero voltage levels.

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14. (original) The method of Claim 2 wherein (c) comprises applying the transmit waveform to an ultrasound transducer element where the transmit waveform is responsive to a sum function of the first and second voltages.

15. (original) The method of Claim 14 wherein (a) comprises:

(a1) providing a first primary winding of the first transformer, the first primary winding tapped by at least a voltage source and three switches; and

(a2) connecting one of the three switches to ground.

16. (original) The method of Claim 14 wherein (c) comprises generating the transmit waveform having at least four voltage levels, the at least four voltage levels responsive to first and second winding ratios of the first and second transformers, respectively, the first winding ratio different than the second winding ratio.

17. (original) The method of Claim 14 further comprising:

(d) tapping first and second primary windings of the first and second transformers, respectively, with a same voltage source.

18. (original) The method of Claim 14 wherein (a) comprises generating the first voltage as a function of time and a maximum number of states of the first transformer; and (b) comprises generating the second voltage as a function of time and a maximum number of states of the second transformer, the maximum number of states of the first transformer different than the maximum number of states of the second transformer.

19. (original) The method of Claim 14 wherein (a) comprises generating a negative voltage and (b) comprises generating a positive voltage.

20. (original) The method of Claim 14 wherein (a) comprises generating the first voltage in response to a superposition of magnetic flux from first and second separate flux paths in a third flux path.

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21.   (original) The method of Claim 16 further comprising:

(d)   controlling the sum function as a function of base four control signals for each of the first and second transformers.

22-39 (cancelled)

40.   (new) The method of Claim 1 wherein (c) comprises providing the at least three non-zero peak amplitudes as a function of both summing and subtracting the first and second voltages.

41.   (new) The method of Claim 1 wherein (b) comprises applying the second voltage with a different polarity than the first voltage and wherein (c) comprises outputting the transmit waveform where at least one of the at least three non-zero peak amplitudes is responsive to the first voltage and the second voltage with the different polarity.

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